

Application No.: 10/010,573

### REMARKS

The Office Action of March 28, 2003 has been carefully considered. Reconsideration of this application, as amended, is respectfully requested.

Applicants further note that mailed on even date herewith is an Information Disclosure Statement including patents identified in a related Patent Cooperation Treaty (PCT) filing, the cited references being supplied within three (3) months of receipt by Applicant.

Turning now, to the office action, claims 1-8, 10-11 and 16-20 were rejected under 35 U.S.C. §103(a) as being unpatentable over Morikawa (5,854,957) in view of Brady et al. (6,100,804). Claim 9 was rejected under 35 U.S.C. §103(a) as being unpatentable over Morikawa in view of Brady and further in view of Matsuda et al. (5,925,446). Claims 13 and 14 were rejected under 35 U.S.C. §103(a) as being unpatentable over Morikawa in view of Brady and further in view of Kinoshita et al. (5,287,150). Claim 15 was rejected under 35 U.S.C. §103(a) as being unpatentable over Morikawa in view of Brady and further in view of Kinoshita et al. (5,287,150) and Matsuda et al.

The disclosures of the cited art and the distinctions between the various patents cited may be briefly summarized as follows:

With regard to the rejection of claims 1-8, 10-11 and 16-20 under 35 U.S.C. §103(a) as being unpatentable over Morikawa (5,854,957) in view of Brady et al. (6,100,804), Applicants respectfully submit that the cited references fail to teach or suggest the claimed invention, including all limitations therein. In particular, the rejection indicates that Morikawa discloses a method of reducing a thickness of a compressible substrate bearing an image. The Examiner has relied upon the phrase "thermal compression bonding," apparently as such a teaching. However, it appears that two separate features of Morikawa have been taken out of context and improperly combined. In particular, Morikawa is generally directed to an image formation apparatus having an apparatus for fixing toner images (fixing device 84) to a sheet (col. 5, lines 45-65). Furthermore, once sheets are so imaged and the images affixed thereto, they may optionally be forwarded to a bind unit 631 (col. 6, line 66 - col. 7, line 11). The bind unit works on the edges of a predetermined number of sheets, where they are pressed together to form contact with the bind

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cover, conveyed to a binder transport roller, and attached by compression at bind heat plate 635. The binding operation disclosure is apparently what the Examiner has relied upon for teaching "thermal compression bonding."

On the other hand, the rejected independent claims (1, 7, 10 and 17) each recite the compression of a substrate having an image thereon in a manner so as to preclude the substrate from returning to its original thickness – the compression is permanent. Furthermore, claim 17 specifically recites the step of preparing a substrate comprising paper making fibers and a low density bulking material. The Examiner has not indicated where a low density bulking material limitation is taught by the references. As noted by the Examiner, Morikawa fails to teach or even suggest compression, and only teaches the use of heat relative to a binding operation. Accordingly, independent claims 1, 10 and 17, and all claims dependent therefrom, are believed to be patentably distinguishable over Morikawa.

Brady, as noted by the Examiner, does suggest "thermal compression" as one of a number of bonding techniques that may be used to connect various components of the RFID tag disclosed therein. However, the context of the citation at the top of col. 8 is directed entirely to electrical contact bonding techniques. The Examiner has also relied upon other sections of Brady et al. (col. 3 and col. 7), apparently to suggest the compression of the substrate. Brady et al. does discuss the "thinning" of the RFID device at columns 3 and 7, but the thinning operation is clearly taught at col. 3 to be accomplished by polishing or back grinding the wafer (semiconductor). There appears to be no suggestion or teaching by Brady et al. to the thinning of a substrate with markings thereon by compression. Moreover, such an interpretation is taught away from by Brady et al. at col. 6, lines 41-45, where it clearly states that positioning of the RFID tag in an area that is not printed is preferable, "since the force of the print head against the label could potentially damage the RFID tag." (emphasis added) Hence, Applicants respectfully submit that Brady et al. not only does not teach the application of a compressive force to reduce the thickness of a substrate, but specifically teaches away from such a process. Accordingly, claims 1, 10 and 17 are believed to be patentably distinguishable over Brady et al.

Turning to the combination of Morikawa with Brady et al., Applicants respectfully urge that the rejection shows no basis or suggestion for such a combination. Rather, it appears the Examiner is using Applicant's disclosure as a recipe for selecting the

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appropriate portions of unrelated patents to construct the claimed invention. A piecemeal reconstruction of the prior art patents in light of Appellant's disclosure is not a basis for a holding of obviousness, *In re Kamm et al.*, 172 USPQ 298( CCPA, 1972). The mere fact that the prior art devices could have been modified does not make the modification obvious unless the prior art suggested the desirability of such a modification, *In re Gordon*, 221 USPQ 1125, (Fed. Cir., 1984); *Jones v. Hardy*, 220 USPQ 1021, (Fed. Cir., 1984). It is clear that the proposed combination of patents does not suggest that the modifications proposed by the Examiner be made, but teaches away from such modifications. Furthermore, this combination of references does not disclose compression of a substrate having an image thereon in a manner so as to preclude the substrate from returning to its original thickness. Accordingly, Applicants respectfully urge that independent claims 1, 10 and 17, and claims dependent therefrom, are patentably distinguishable over the questionable combination.

Considering the combination of Morikawa with Brady et al, *in arguendo*, it appears that at most Brady et al. could provide the basis for various alternative bonding techniques that may be used, or that the RFID tag of Brady et al. could be attached to a printed document produced by the apparatus disclosed by Morikawa. There does not, however, appear to be any suggestion for the combination or modification asserted to apply a compressive force to the printed pages of the Morikawa device. Absent particular teaching in this regard, Applicants respectfully submit that *prima facie* obviousness has not been established, and that claims 1, 10 and 17 are in condition for allowance.

With specific reference to rejected dependent claims, the following distinctions are also noted as the basis for traversal of the obviousness rejection under 35 USC §103(a):

Relative to the rejection of claim 2, there is no teaching in Brady et al. of the compression of the RFID tag or its substrate. In fact, as noted above, Brady et al. teaches away from contact of even a printhead with the tag to avoid damage (col. 6, lines 41-45). Absent a teaching of a compressive force, it would not appear that there is a teaching of an adjustable compressive force.

With regard to claims 3 and 11, the Examiner appears to have reversed the prior interpretation of Morikawa, now asserting that the binding transport rolls of Morikawa

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provide compression force and heat. As will be appreciated by a careful reading of the top of col. 8, the sheets are conveyed by the transport roller 632 to a bind heat plate where they are attached by compression and heat. As will be further appreciated by a review of the relevant figure, the bind heat plate is oriented perpendicular to the direction of travel through the transport roller(s) until the hot melt binding has occurred, when the bound bundle is then discharged. Applicants respectfully contend that transport rollers, as described by Morikawa, do not provide a compressive force, let alone one to permanently compress a sheet, nor does the patent suggest heating of one of the rollers as is claimed in dependent claim 3, or a nip imparting a permanent compressive force as set forth in claim 11. As to claims 4 and 12, Applicants are unable to find any particular recitation of a range of compressive forces applied by the transport roller 632, or for that matter any rollers disclosed in Morikawa. Accordingly, claims 4 and 12 are also believed to be patentably distinguishable over the combination.

Claim 5 recites the repeated application of the claimed compressive force. If the Examiner is relying on the binder transport roller 632 as teaching the compression, how is it that the same roller can be used to facilitate assembly of a plurality of sheets that are repeatedly compressed? Similarly in claim 6, the Examiner has failed to demonstrate where either patent relied upon teaches or suggests the variation of compressive force in the nature of nip pressure. Absent specific teaching of the recited claim elements, Applicants respectfully urge that the arguable combination of Morikawa in view of Brady et al. fails to teach the claimed invention of dependent claims 5 or 6. In the event the rejection is maintained, Applicants respectfully request that the Examiner indicate where such teachings are found in the references. Or, if Official Notice or interpretation is being applied, that the Examiner indicate that to be the case.

Considering independent claim 7, Applicants again submit that "thermal compression bonding" as asserted by the Examiner, is neither taught nor suggested by Morikawa or Brady et al. in the context of reducing the thickness of substrates with images thereon. Moreover, neither of the cited patents indicate or suggest that any compression would be permanent. Similarly, as recited in claim 8, the "step of concurrently compressing and heating the imaged substrate causes the toner image to smoothen and produces an improved glossy image quality" is neither taught nor suggested by "thermal compression bonding" directed to fixing the toner to the

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surface of the substrate. Accordingly, claims 7 and 8 are also submitted to be in condition for allowance over the references relied upon for the rejection.

With regard to claim 16, the Examiner has erroneously interpreted a claim limitation for a stripper finger (see specification page 13, lines 3 - 9) as being equivalent to a gate or switching claw that is switched, by a solenoid, to control the direction of sheet travel for binding. It is not at all apparent how the switching claw described could operate on the roller, as recited in claim 16, yet be a significant distance from any roller as it is depicted in Morikawa. Again, the Examiner appears to have employed the instant application as the recipe from which to select and/or modify unrelated components of the cited patents in an attempt to reconstruct Applicant's invention. Absent specific teachings on point, claim 16 is respectfully submitted to be in condition for allowance.

Turning next to the rejections of claims 18, 19 and 20, in addition to the failure of either Morikawa or Brady et al. to teach the step of "preparing a substrate comprising paper making fibers and a low density bulking material" as recited in claim 17, there is also no teaching of the low density material being compressible (claim 18), including a collapsible structure (claim 19) or being a corrugated structure (claim 20). As noted in the specification at pages 11-12, various materials and processes can be employed to accomplish such steps. Nonetheless, the Examiner has failed to indicate anything other than conventional fixing technology as the basis for rejecting claims with these specific limitations as to the type of material used to provide a substrate suitable for compression. Absent a teaching or suggestion of the addition of a bulking material, and the compression thereof in accordance with the recited steps. Applicants continue to urge that claim 17, and all claims dependent therefrom, are patentably distinguishable over Morikawa and Brady et al., either alone or in combination.

Turning next to the rejection of claim 9, the claim was rejected under 35 U.S.C. §103(a) as being unpatentable over Morikawa in view of Brady and further in view of Matsuda et al. (5,925,446). Applicants incorporate the arguments set forth above in relation to traversal of the rejection of claim 1. To the prior combination, the Examiner has added the teaching of Matsuda et al., wherein the description of the background of Matsuda et al. refers to two publications that suggest the use of a release agent in the formation of full-color duplex images. The reference is relied

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upon as suggesting that a release agent may be used during the compression operation cited in the instant application. However, like the other patents cited, Matsuda et al. also fails to teach or suggest the compression of substrates so as to provide a permanent reduction in the thickness of a substrate. At most the addition of Matsuda et al. merely suggest the use of a release agent in combination with the recited Morikawa fixing ("thermal compression bonding") operation. This, however, does not give rise to a teaching of the elements of claim 9, nor of claims 7 and 8 from which it depends. Furthermore, the context of the section of Matsuda et al. relied upon by the Examiner suggests that release agents are undesirable and are removed by transfer paper to avoid "image stain" (col. 4, lines 31-33). Hence Matsuda et al., considered in context, would appear to teach away from the proposed use set forth by the Examiner in the combination of the patents. Accordingly, Applicants respectfully contend that claim 9 is patentably distinguishable over Morikawa, Brady et al., and Matsuda et al., either alone or in combination.

Claims 13 and 14 were rejected under 35 U.S.C. §103(a) as being unpatentable over Morikawa in view of Brady et al. and further in view of Kinoshita et al. (5,287,150). Applicants incorporate the arguments set forth above in relation to traversal of the rejection of claims 10 and 11. As noted by the Examiner, claims 13 and 14 add the further limitations of a resilient outer surface (claim 13) and an aluminum roller with an anodized surface (claim 14).

The Examiner has added to the combination of Morikawa and Brady et al. by relying on the teachings of Kinoshita et al. Kinoshita et al. teaches a developing device, wherein a resilient roller 5 disposed within a toner housing is employed to peel off toner remaining on the developing sleeve 3 and supply new toner 6 (col. 5, lines 5-8). The resilient roller is described as being formed of a metal core (aluminum) of approximately 5 mm diameter and a silicone rubber foam with a thickness of approximately 5mm on the surface thereof. Not only is the described roller designed to operate in a developer (versus the fixing system of Morikawa), but it is inconceivable just how the roller, with a thick, foam surface, would operate to provide the compressive forces cited in the application. Here again, the Examiner appears to have misconstrued the teachings of the patent in a manner so as to "create" a teaching of elements recited by the present application, without any such suggestion or teaching of such a combination or modification. Accordingly, Applicants respectfully urge that not only is the combination improper (not supported by the

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teachings), but it does not give rise to adequate teaching on which to base a rejection. At most, the addition of Kinoshita leads to the addition of a developer to the Morikawa apparatus. Accordingly, Applicants urge that claims 13 and 14 remain patentably distinguishable over the references of record, either alone or in combination.

Claim 15 was rejected under 35 U.S.C. §103(a) as being unpatentable over Morikawa in view of Brady and further in view of Kinoshita et al. (5,287,150) and Matsuda et al. Applicants incorporate herein the arguments set forth above in relation to traversal of the rejection of claims 13 and 14, from which claim 15 depends. To the previous combination, the Examiner has again added the teachings of Matsuda et al. with respect to the teaching of a release agent. Once again, the reference to a release agent is only included as a background reference, and is made in combination with the statement that the agent must be removed by transfer paper in order to avoid image stain. At most, Matsuda adds the teaching of the use of a release agent in the developing or fixing stages. Such a teaching does not give rise to the claimed invention, where the rollers are used to apply a compressive force and at least one roller is formed from an anodized aluminum and includes a urethane coating thereover. The urethane coating is not believed to be anticipated by the suggestion of a release agent in Matsuda et al. Nor is such a combination suggested by any of the other references made of record, either alone or in combination. Hence, Applicants respectfully maintain that claim 15 is patentably distinguishable over Morikawa in view of Brady et al., Kinoshita et al. and Matsuda et al., either alone or in combination.

Insofar as claims 1-22 are concerned, these claims are believed to be in allowable condition for the reasons hereinbefore discussed.

In view of the foregoing remarks and amendments, reconsideration of this application and allowance thereof are earnestly solicited.

In the event any additional fees are required, authorization is hereby provided to charge Deposit Account No. 50-1706 including, but not limited to, any fees for extensions of time or additional claims.

In the event the Examiner considers personal contact advantageous to the disposition of this case, she is hereby authorized to call **Applicant's attorney**,

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